REMARKS

Claims 1-13 are pending, with claims 1 and 10 being independent. Claims 1 and 10 have been amended. No new subject matter has been added. Applicant respectfully requests reconsideration and allowance of the application for the reasons presented below.

Drawings

Figure 1 was objected to for faling to include a legend such as "prior art." In response, a replacement sheet that includes a prior art legend has been provided.

Rejections under 35 U.S.C. §103(a)

Claims 1 to 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,058, 298, hereinafter "Koyano" in view of U.S. Patent No. 6,130,764, hereinafter "Taniguchi." Applicant respectfully traverses this rejection. Applicant disagrees with the conclusions of Office Action but to expedite the examination of this application claims 1 and 10 are amended.

For ease of reference, a clean copy of amended claim 1 is reproduced below:

1. A method for processing overheads in an optical communication system, comprising:
in a signal receiving direction,
conducting an optical/electrical conversion, a serial/parallel conversion for the received optical signal, separating parallel overheads from the optical signal, **extracting overheads necessary** for overhead processing **from the separated parallel overheads**, conducting a parallel/serial **conversion for the extracted overheads** to generate a serial overhead frame, and outputting the serial overhead frame; and
receiving the outputted serial overhead frame, conducting a serial/parallel conversion for the serial overheads in the received frame, and reverting parallel overheads for overheads processing **by inserting fixed reserved overheads into** the overheads which are obtained by conducting the serial/parallel conversion for the serial overheads in the received frame;
in a signal transmitting direction,
generating parallel overheads to be transmitted, **extracting overheads necessary** for overheads processing **from the generated overheads**, conducting a parallel/serial **conversion for the extracted overheads** to generate a serial overhead frame, and outputting the serial overhead frame; and
receiving the serial overhead frame outputted, conducting a serial/parallel conversion for the serial overheads in the received frame, reverting the parallel overheads **by inserting fixed reserved**

overheads into the overheads which are obtained by conducting the serial/parallel conversion for the serial overheads in the received frame, combining the reverted overheads with payload data of the system, conducting a parallel/serial conversion, an electrical/optical conversion, generating and transmitting obtained optical signals.

In rejecting claim 1, the Office Action relies on col. 4, lines 6-38 and Figure 2 of Koyano and Figures 1, 2, 8 and 9, col. 7, line 30 to col.14, line 62 of the Taniguchi to assert the teaching of these references will lead one of ordinary skill in the art to get the solution comprising all the features recited in the claim 1. However, Applicant has reviewed the cited portions and remainder of the Koyano and Taniguchi, and found that none of them teach or suggest "*in a signal receiving direction, conducting...,extracting overheads necessary for overhead processing from the separated parallel overheads, conducting a parallel/serial conversion for the extracted overheads to generate a serial overhead frame,...reverting parallel overheads for overheads processing by inserting fixed reserved overheads into the overheads which are obtained by conducting the serial/parallel conversion for the serial overheads in the received frame; in a signal transmitting direction,... extracting overheads necessary for overheads processing from the generated overheads, conducting a parallel/serial conversion for the extracted overheads to generate serial overheads,... reverting the parallel overheads by inserting fixed reserved overheads into the overheads which are obtained by conducting the serial/parallel conversion for the serial overheads in the received frame...*"

Column 4, lines 6 to 38, and Figure 2 of Koyano at best teach or suggest an optical transmission device 10 that comprises overhead terminating means 1a and 1b, optical switch means 2 and switching control means 3 for providing a switching command for the switching process to the optical switch means.

An O/E section 11a of the overhead terminating means 1a converts the optical signal on the work line of the main-stream line to an electric signal. An S/P section 12a of the overhead

terminating means 1a converts the resulting serial electric signal to parallel electrical signal. An OH processing section 1a-1 of the overhead terminating means 1a extracts switching information (including fault information about fault on the main-stream line and status information about the status of other devices on the main-stream line) from the parallel electric signal, and supplies the extracted information to switching control means 3. The OH processing section also sets status information which is sent to a terminal office of the Tributary side to notify the same of the status of the optical transmission device. A P/S section 13a of the overhead terminating means 1a converts the parallel electric signal output from the OH processing section 1a-1 to a serial electric signal. An E/O section 14a converts the serial electric signal to an optical signal, which is then output to the optical switch means.

However, Koyano does not teach or suggest the above-mentioned features that are now recited in the amended claim 1.

Figures 1, 2, 8 and 9, and col. 7, line 30 to col. 14, line 62 of Taniguchi at best describe a transmission apparatus 4 which comprises HED1 circuit sections (43b-1, 43b-2) and CPU circuit sections (43f-1, 43f-2). Each of the HED1 circuit sections 43b-1 and 43b-2 comprises an optical receiver/optical sender (OR/OS) 47 functioning as an electric/optical interface with respect to the optical fiber 46 to the HED1 circuit sections 43b-1 and 43b-2; and an overhead matrix section 48 for generating ATM (Asynchronous Transfer Mode) cells from the multiplexed overhead information from the HUB1 circuit section 44 and effecting routing control for outputting thus generated ATM cells to any of a plurality of SCC ports 49 on the side of the CPU circuit sections 43f-1 and 43f-2. A CPU 51 connected to the SCC ports 49 via a bus 50 can recognize the overhead information contained in the transmission signal frame and thus can monitor and control the system(see col.14, lines 9 to 21).

As can be seen, Taniguchi merely describes that *the overhead matrix section 48 generates ATM cells from the multiplexed overhead information from the HUB1 circuit section 44*. However, Taniguchi does not suggest or teach that ***the overheads necessary for the overhead processing is extracted from the separated parallel overheads***, and then ***a parallel/serial conversion for the extracted overheads*** is conducted to generate a serial overhead frame. Furthermore, Taniguchi fails to teach or suggest the way how to revert the original parallel overheads from the serial overhead fame, and especially fails to teach or suggest that *the parallel overheads is reverted by* ***inserting fixed reserved overheads into*** *the overheads which is obtained by conducting the serial/parallel conversion for the serial overheads in the received frame.* Therefore, Taniguchi fails to teach all the above-mentioned distinguishing features set forth in the amended claim 1, and also fails to give any hints to the person skilled in the art to get all the above-mentioned distinguishing features set forth in the amended claim 1.

In view of foregoing, the Applicant respectfully submits that none of Koyano and Taniguchi teaches the above-mentioned distinguishing features set forth in the amended claim 1. Dependent claims 2-10, which dependent from the amended claim 1, are allowable for at least the same reasons as argued above with respect to the amended claim 1.

With respect to amended independent claim 10, it recites similar features as those of amended claim 1 and therefore patentably distinguishes over the prior art of record for the same reasons. Claims 11-13, which dependent from the amended claim 10, are allowable for at least the same reasons as argued above with respect to the amended claim 10.

Therefore, the Applicant respectfully requests withdrawal of the rejections under 35 USC § 103(a).

Conclusion

Applicant has made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Ira S. Matsil, Applicant's attorney, at 972-732-1001 so that such issues may be resolved as expeditiously as possible. The Commissioner is hereby authorized to charge any fees that are due, or credit any overpayment, to Deposit Account No. 50-1065.

Respectfully submitted,

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Date

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